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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,683	02/27/2002	Xuelong Shi	55071-131	1543

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EXAMINER	
GARBOWSKI, LEIGH M	

ART UNIT	PAPER NUMBER
2825	

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/083,683	SHI ET AL.	
	Examiner	Art Unit	
	Leigh Marie Garbowski	2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,8-10,15,16 and 18-21* is/are rejected.

7)☒ Claim(s) *5,7,11-14 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 18-21 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 8-11 of prior U.S. Patent No. 6,519,760 B2. This is a double patenting rejection.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-4 and 6 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 and 4-6 of U.S. Patent No. 6,519,760 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present language is considered an obvious

variation of the patented language. Taking claim 1 as exemplary, "identifying a pitch region containing said first pitch as an extreme interaction pitch region" is commensurate with the patented "identifying said first pitch as an extreme interaction pitch region" considering that a particular region is identified and no further limitations are presented to describe that the additional "pitch region" now claimed is being identified as anything further and separate from that already claimed and patented. The language "with respect to" can be considered a broadened interpretation of "the derivative of the log-slope ... divided by the derivative of said first pitch ..." since a value is still being determined as being approximately equal to zero based upon the relation of two features. As per claim 6, the claim provides for "is less than" while patented claim 5 and 6 recite "exceeds". This is merely an obvious variation of evaluation regarding well-known mathematic relations; the identifying of a given illumination angle as being undesirable based upon the log-slope of said second total illumination intensity value still remains.

Claims 8-10 and 15-16 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 5-6 of U.S. Patent No. 6,519,760 B2 in view of 5,242,770. Taking claim 8 as exemplary, Chen et al. teach a method of designing and manufacturing a mask pattern [column 1, lines 5-8]. As per claims 15-16, Chen et al. teach a computer program comprising program code executable on a computer [column 1, lines 18-22]. It would have been obvious to use the patented method to design and manufacture a mask pattern according to the

method because "the present invention offers a process independent solution" [column 4, lines 34-35].

Allowable Subject Matter

Claims 5, 7, 11-14 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: as per claim 5, the prior art of record does not disclose or teach the recited method in combination with wherein said pitch region is a range of pitches within +/- 0.12 x λ/NA of a specified pitch; as per claim 7, the prior art of record does not disclose the recited method in combination with wherein said predetermined value is 15; as per claim 11, the prior art of record does not disclose or teach the recited method in combination with creating illumination maps and identifying favorable illumination angles as set forth in the claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shiraishi [U.S. Patent #6,094,305] disclose varying illumination angle based on pitch. Socha [U.S. Patent Application Publication #2002/0152452 A1] discloses optimizing illumination profiles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh Marie Garbowski whose telephone number is 703-305-9753. The examiner can normally be reached on days.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 703-308-1323. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

LEIGH M. GARBOWSKI
PRIMARY EXAMINER